

**What is Claimed is;**

1. A hand held telephone set to be used by connecting at least an earphone, said hand held telephone set characterized by comprising:

a telephone set main body unit;

detecting means for detecting which of a both-ear mount type earphone and a single-ear mount type earphone is mounted to said telephone set main body unit;

an amplifier for amplifying an ambient sound and delivering the sound to said earphone; and

a control device for adjusting a signal level of the ambient sound output from said amplifier according to an output of said detection means.

2. The hand held telephone set as claimed in claim 1, characterized in that, in the case where said both-ear mount type earphone is mounted to the telephone set main body unit, a gain of said amplifier is increased, thereby improving the signal level of the ambient sound, and in the case where said single-ear mount type earphone is mounted to the telephone set main body unit, the gain of said amplifier is reduced, thereby lowering the signal level of the ambient sound.

3. The hand held telephone set as claimed in claim 1, characterized in that, in the case where said both-ear mount type earphone is mounted to the telephone set main body unit, said control device controls the gain of said amplifier to be fed back according to an

analog audio signal delivered to said earphone.

4. The hand held telephone set as claimed in claim 1, characterized in that, in the case where said single-ear mount type earphone is mounted to the telephone set main body unit, said control device fixes the gain of said amplifier according to an output of said detection means.

5. The hand held telephone set as claimed in claim 1, characterized in that, said amplifier superposes a digital signal according to said ambient sound on a digital audio signal.

6. The hand held telephone set as claimed in claim 1, characterized in that, said amplifier superposes an analog signal according to said ambient sound on a analog audio signal.

7. The hand held telephone set as claimed in claim 1, characterized in that, said ambient sound is acquired by a microphone for a speaker.

8. An audio processing method in a hand held telephone set to be used by connecting an earphone to a telephone set main body unit, said audio processing method characterized in that, previously which of a both-ear mount type earphone and a single-ear mount type earphone is mounted to said telephone set main body unit is detected, when the

ambient sound is superposed on said earphone, the signal level of the ambient sound is adjusted according to said earphone type.

9. The audio processing method as claimed in claim 8, characterized in that, in the case where said both-ear mount type earphone is mounted to the telephone set main body unit, the signal level of said ambient sound is increased, and in the case where said single-ear mount type earphone is mounted to the telephone set main body unit, the signal level of said ambient sound is lowered.

10. The audio processing method as claimed in claim 8, characterized in that, in the case where said both-ear mount type earphone is mounted to the telephone set main body unit, the signal level of said ambient sound is controlled to be fed back according to the analog audio signal delivered to said earphone.

11. The audio processing method as claimed in claim 8, characterized in that, in the case where said single-ear mount type earphone is mounted to the telephone set main body unit, the signal level of said ambient sound is fixed.